

**Before the Public Service Commission of Utah**

**Docket No. 17-057-20**

**IN THE MATTER OF THE  
PASS-THROUGH APPLICATION OF DOMINION ENERGY UTAH FOR AN  
ADJUSTMENT IN RATES AND CHARGES FOR NATURAL GAS SERVICE IN  
UTAH**

**Prepared Direct Testimony of**

**Howard E. Lubow**

**DPU Exhibit 5.0**

**On Behalf of the**

**Utah Division of Public Utilities**

**PUBLIC VERSION**

**April 23, 2018**

1 **Introduction and Background**

2

3 **Q. Please state your name and business address.**

4 A. My name is Howard E. Lubow. My business address is Overland Consulting. My  
5 business address is 11551 Ash Street, Suite 215, Leawood, Kansas 66211.

6

7 **Q. Please state your current position with Overland Consulting and summarize your  
8 professional experience relevant to your testimony in these proceedings.**

9 A. I am President of Overland Consulting. I have testified in numerous proceedings across  
10 the country on gas distribution utility issues including gas curtailment, gas supply  
11 procurement, class cost of service, and tariff structures. I have also addressed natural  
12 gas pipeline matters, both on behalf of pipelines and shippers. I have addressed these  
13 matters on behalf of utilities and state commission before state and federal regulatory  
14 agencies in the United States and Canada. A more complete representation of my utility  
15 and consulting experience is included in my resume attached to the testimony as DPU  
16 Exhibit 5.1 DIR.

17

18 **Q. Would you please briefly summarize your experience as it relates to gas pipeline and  
19 distribution company operations and procurement practices?**

20 A. I was the Chief Operating Officer of a gas pipeline company in the Midwest. In this  
21 capacity, among others, the Senior Vice-President, Engineering and Operations reported  
22 directly to me. Aside from my position as COO, I also held the position of Chief Financial  
23 Officer. Within the Overland Consulting practice, we perform management audits of gas  
24 distribution companies, assessing various aspects of governance, finance, and  
25 operations. More specifically, the audit reviews encompass gas operations and supply  
26 practices. These engagements are focused on management effectiveness, policies and  
27 procedures, and the assessment of utility operations in light of industry best practices. I  
28 have recently been the Project Director in major management audit reviews of New  
29 York State Gas & Electric Company, Rochester Gas & Electric Company, and Central

30 Hudson Gas & Electric Company. Included in the scope of these projects was: gas  
31 planning, forecasting and procurement practices.

32

33 **Q. Did you submit testimony and appear as a witness in Docket No. 17-057-09,**  
34 **addressing matters similar in scope to these proceeding?**

35 A. Yes, I did

36

37 **Q. What is the scope of your testimony in this proceeding?**

38 A. Overland was retained by the Division of Public Utilities (“DPU”) to review the Dominion  
39 Energy Utah (“DEU” or “the Company”) filing in this proceeding and to specifically  
40 address:

- 41 • The reliability of the forecast models employed by DEU;
- 42 • Planning and Operating requirements on the DEU system during peak conditions;
- 43 • Current and Alternative options available to meet DEU peak demand; and
- 44 • Industry planning and best practices associated with these subject areas.

45 Three individuals were involved in the review of these subject areas. Mr. Ken Ditzel,  
46 who reviewed the forecast models employed in the peak-day and peak-hour forecasts;  
47 Mr. Frank DiPalma, who reviewed the planning and operations requirements on the  
48 DEU system; and myself. I reviewed the historic experience of the Company in meeting  
49 customer needs during peak conditions; alternatives available to meet these customer  
50 demands; and industry planning and practices regarding planning and operations  
51 practices employed in meeting gas distribution company demands during peak periods.

52

53 **Q. Are you aware of the specific circumstances by which this proceeding was opened?**

54 A. I believe so. Aside from this Docket providing a further, and more detailed review of the  
55 issues raised in Docket No. 17-057-09, it is my understanding that the costs associated  
56 with the DEU Peak-Hour services contracts with Kern River and DEQP are now being  
57 collected on an interim basis, at least in part, subject to the outcome of this proceeding.

58 **Q. What material did you rely upon as the basis for your review and analysis?**

59 A. I reviewed the direct testimony filed by the DEU Company witnesses: Mr. David C.  
60 Landward; Mr. Michael L. Platt; and Mr. William F. Schwarzenbach III. I also reviewed  
61 material supporting this testimony and documents relevant to this proceeding produced  
62 by the Company in responses to discovery. Aside from these sources, I have relied on  
63 publicly available information. Finally, I have relied upon my knowledge of the natural  
64 gas business, gained from my consulting and pipeline operations experience.

65  
66 **Q. Having read the testimony filed by DEU in this proceeding, can you characterize it in  
67 relation to the evidence it filed in support of the Peak-Hour Kern River and Questar  
68 Pipeline Contracts addressed in Docket No. 17-057-09?**

69 A. Yes. The actions taken by DEU to meet its Peak-Hour needs, and the evidence and  
70 arguments supporting these actions are essentially unchanged from the material  
71 provided in the hearing last year. However, the scope of review of this evidence by the  
72 DPU, principally through its consultants, has expanded in this proceeding.

73  
74 **Q. Were all documents produced by DEU in discovery, as requested by Overland?**

75 A. Certain documents were not produced in time to be considered in our Direct Testimony.  
76 To the extent that it may be necessary to do so, we will supplement our testimony as  
77 information becomes available.

78  
79 **Summary of Findings**

80  
81 The following findings and conclusions are addressed in this testimony.

- 82
- 83 • The actual conditions of service to DEU from Kern River and DEQP have been relatively  
84 unchanged in recent years, with no interruptions of service, operational or financial  
impacts to DEU due to pipeline restrictions imposed during peak periods.

- 85 • There are no known comparable examples of upstream pipeline peak-hour services  
86 elsewhere in the country; and more specifically on the Kern River and DEQP pipelines,  
87 aside from the service to DEU.
- 88 • DEU is currently paying approximately \$2.4 million per year to upstream pipelines,  
89 about 60% of which is paid to its affiliate, DEQP. To date, there have been no  
90 circumstances or conditions where these services were needed to meet peak period  
91 conditions that could not otherwise have been met under existing firm transportation  
92 service agreements.
- 93 • DEU has not experienced a Design Peak-Day condition since 1963; about 55 years ago.  
94 DEU has estimated that the probability of a design peak occurrence in a 50 year period  
95 is 92%.
- 96 • DEU's planning documents support a commitment to **[Begin Confidential]** [REDACTED]  
97 [REDACTED]  
98 [REDACTED]  
99 [REDACTED] **[End Confidential]**
- 100 • DEU has made little, if any, effort to consider load control options for large customers or  
101 Lake Side, though such options, if and when actually needed, could be a significantly  
102 more economical alternative.
- 103 • DEU fails to follow industry practices in a number of ways relevant peak-period  
104 planning, and as a result, comes to spurious and unnecessary planning conditions it  
105 believes must be met.

106  
107 **Historical Experience in Meeting Design Peak-Day Demand**  
108

109 **Q. Mr. Schwarzenbach has cited a Kern River presentation made at a customer meeting**  
110 **on September 14, 2017 in his testimony. This testimony references actions that "Kern**  
111 **River could take to address hourly imbalances and with excerpts from the Kern River**

112 **Tariff that authorize Kern River to take those actions”. Mr. Schwarzenbach specifically**  
113 **quotes several of provisions in the Tariff, including Section 10.9, which states:<sup>1</sup>**

114 **Transporter will have the right to take actions of whatever**  
115 **nature may be required (including termination or reduction of**  
116 **service to Shipper) to correct any imbalances which impair the**  
117 **operation of or threaten the integrity of its system, including**  
118 **maintenance of service to other Shippers. (Kern River Tariff,**  
119 **Section 10.9)**

120 **Mr. Lubow, was this provision in the Kern River Tariff recently issued?**

121 A. No. It was issued on August 19, 2010.<sup>2</sup> Thus, these provisions are not something new,  
122 and do not support any recent change in meeting services to shippers during a peak-day  
123 condition. In fact, the Kern River presentation made In September 2017 references that  
124 it will “continue to provide a reasonable amount of flexibility but will not allow system  
125 integrity to be impacted”.<sup>3</sup>

127 **Q. Again, referring to Mr. Schwarzenbach’s testimony at page 4, lines 77-82, he goes on**  
128 **to reference the Kern River September 14, 2017 presentation where it cites that “Kern**  
129 **River has the “right to take actions of whatever nature may be required (including**  
130 **interruption or suspension of service to the Location) to correct any Operational**  
131 **Imbalances that may impair the operation of, threaten the integrity of, or interfere**  
132 **with the maintenance of service on” Kern River’s system.” Did you request a listing of**  
133 **each and every interruption or suspension of service from Kern River occurring during**  
134 **a peak period condition from January 1, 2012 to the present?**

135 A. Yes, I did. There have been none.<sup>4</sup>

136

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<sup>1</sup> Direct Testimony of William F. Schwarzenbach III at page 4, lines 64-76.

<sup>2</sup> Response to Discovery DPU 2.08; Kern River website.

<sup>3</sup> Response to Discovery DPU 2.07, Attachment 1. Presentation of Bob Checketts, VP, Operations & Engineering Kern River Gas Transmission Company.

<sup>4</sup> Response to Discovery DPU 2.09.

137 **Q. At page 9, lines 179-183, Mr. Schwarzenbach points out that “upstream pipelines have**  
138 **sent out many notices directing shippers to match their deliveries to scheduled**  
139 **volumes. These notices have come frequently in the last year-and-a-half during both**  
140 **summer and winter high flow events.” To what extent, if any, did DEU incur any**  
141 **operational or financial impacts for taking deliveries from Kern River at or below the**  
142 **firm capacity it holds on the pipeline.**

143 **A.** In its response to discovery, DEU did not identify any operational impacts and stated  
144 that no financial impacts have been incurred for taking deliveries from Kern River at or  
145 below the firm capacity it holds on the pipeline.<sup>5</sup>

146

147 **Precedents for Consideration of Peak-Hour Services**

148

149 **Q. Has the Company provided any examples of how the industry has begun to focus on**  
150 **services required to address Peak-Hour demand requirements?**

151 **A.** Yes. Mr. Schwarzenbach provides some discussion of two proceedings in which this  
152 matter was addressed. This is essentially the same testimony that he provided in his  
153 Rebuttal in Docket No. 17-057-09. Mr. Schwarzenbach stated that the matters raised in  
154 FERC Order 809 “Coordination of the Scheduling Processes of Interstate Natural Gas  
155 Pipelines and Public Utilities” were of interest to the Company.<sup>6</sup> However, neither  
156 Questar Gas Company, nor its affiliates, were parties to FERC Docket No. RM14-2-000,  
157 which resulted in the issuance of Order 809.<sup>7</sup>

158

159 **Q. Given that Mr. Schwarzenbach has again raised FERC Order 809 as an example of**  
160 **peak-hour planning, would you please comment on your understanding of this Order**  
161 **and its relevance in this case?**

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<sup>5</sup> Response to Discovery DPU 2.12.

<sup>6</sup> Direct Testimony of William F. Schwarzenbach III at pages 2-3, lines 28-50.

<sup>7</sup> Response to Discovery DPU 2.05.

162 A. Yes. FERC Order 809 addresses scheduling practices for wholesale natural gas and  
163 electric generation. It is my understanding that this proceeding evolved primarily to  
164 address coordination issues in the ISO-NE and PJM market areas. This Order does not  
165 address, nor does it mention, peak-hour planning for natural gas pipelines or natural gas  
166 LDC. There is no reference to “hourly needs” of customers. The reference in Mr.  
167 Schwarzenbach’s testimony at page 3, lines 49 to 50 regarding the NAESB proceedings  
168 addressing system reliability, again, is rooted in the coordination of scheduling natural  
169 gas and electric generators.<sup>8</sup>  
170

171 **Q. Given that the Lake Side generation facility imposes a substantial firm load on the DEU**  
172 **system, is it possible that there may, in fact, be some relevance to the Peak-Hour**  
173 **concerns raised by the Company in this case?**

174 A. While this may seem like a reasonable possibility, based on the data provided by DEU  
175 the Lake Side Peak-Hour does not coincide with the DEU system Peak-Hour, and  
176 therefore, does not impact the Company’s Peak-Hour need, aside from its contribution  
177 to the firm demand at the time of the system peak-hour.<sup>9</sup>  
178

179 **Q. Exactly how and when did this issue of peak-hour needs develop within DEU, if you**  
180 **know?**

181 A. Regarding the focus on a peak-hour, the engineering group determined that the  
182 unsteady-state models assumed even customer usage throughout the day, which they  
183 concluded was incorrect. It was determined that this needed to be addressed in the  
184 2011 or early 2012 timeframe.<sup>10</sup> Mr. DiPalma addresses DEU system planning, and  
185 explains the relationship of design-day forecasts to these planning models.  
186

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<sup>8</sup> Response to Discovery DPU 2.06.

<sup>9</sup> Responses to Discovery DPU 1.26, and DPU 4.10 (Confidential).

<sup>10</sup> Response to Discovery DPU 2.33.

187 **Q. As you may know, DEU is currently taking peak-hour services from both Kern River**  
188 **and DEQP. Do you know what cost is currently being incurred for these services?**

189 A. At the time of his rebuttal testimony in Docket No. 17-057-09, Mr. Schwarzenbach  
190 indicated that the Kern River Service was \$864,569. Depending on the final pricing for  
191 the DEQP service, which was pending at that time, the price ranged from \$1,606,332 to  
192 \$1,836,380.<sup>11</sup> The total costs currently being paid for these services are as follows:<sup>12</sup>

193	Kern River	\$ 874,000
194	DEQP	\$1,487,815

195

196 **History of Peak-Period Conditions**

197

198 **Q. Have you reviewed the historic customer demands experienced over the last twenty-**  
199 **one years, and the capacity available to meet those demands during these periods?**

200 A. Yes. DPU Exhibit 5.2 DIR shows DEU's actual firm sales over the 20 heating seasons  
201 through 2017. The design day peak is also shown, as well as comparisons in the  
202 difference in actual sales to design requirements, as defined by DEU. Over this period,  
203 the actual firm sales demand has been at least 16.79% below the design day  
204 requirement and has averaged approximately 29% below design peak demand levels.  
205 Assuming a peak-hour variance of 17% as represented in DEU's peak-hour analysis,  
206 aside from being able to meet this demand with other alternatives, there would never  
207 have been an instance when peak-hour services from upstream pipelines would have  
208 been needed.

209

210 **Q. Was other information provided by DEU that provides additional insight into the**  
211 **Company's actual historical peak sendout compared to its projected peak-day?**

212 A. Yes. DPU Exhibit 5.3 DIR provides a summary of actual and projected sendout over the  
213 last ten years, including actual and projected HDDs over this time-period. The

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<sup>11</sup> Docket No. 17-057-09; Rebuttal Testimony of William F. Schwarzenbach at page 9, lines 217-220.

<sup>12</sup> Docket No. 17-057-20; Exhibit 1.3, Page 1 of 2.

214 2017/2018 heating season actual experience was approximately 40% below the  
215 projected Peak-Day demand.

216

217 **Q. What would the cost of the pipeline peak-hour services have been if you assumed that**  
218 **they were in place during the historic 21 year period ending in the 2017/2018 heating**  
219 **season?**

220 A. Assuming current period peak-hour capacity and prices, the cost to customers would  
221 have been approximately \$50 million.<sup>13</sup>

222

223 **Q. Based on the actual peak-day and peak-hour customer demands over this 21 year**  
224 **period, would the additional peak-period capacity ever have been necessary to meet**  
225 **the peak-day conditions experienced during this period?**

226 A. It would not.

227

228 **Q. Would your answer be the same if you considered peak-period customer needs over**  
229 **the last 50 years?**

230 A. That is correct.

231

232 **Q. Mr. Lubow, while your review of the DEU historical experience may be informative,**  
233 **wouldn't you agree that this does not preclude the possibility of more extreme**  
234 **conditions occurring in a Peak Design Day?**

235 A. That is certainly possible. The DEU design day temperature of minus 5 degrees has  
236 occurred seven times. Six of these times were between 1932 and 1949; the seventh  
237 occurred on January 12, 1963.<sup>14</sup> Mr. Landward has indicated that the probability of a  
238 Design-Peak-Day event occurring at least once in a ten-year period is 40%.<sup>15</sup> In a  
239 response to discovery, Mr. Landward stated that using the same methodology to

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<sup>13</sup> Stated in nominal dollars.

<sup>14</sup> Response to Discovery DPU 2.46.

<sup>15</sup> Direct Testimony of David C. Landward at page 14, line 260 to page 15, line 270.

240 establish the probability of this outcome, the probability of occurrence over a twenty-  
241 year period is 64%, while the probability of occurrence over a fifty-year period is 92%.<sup>16</sup>  
242 Based on this testimony, none of the actual peak days occurring over the last fifty years  
243 resulted in the expected outcomes for which Mr. Landward estimated the likelihood of  
244 such occurrences ranging from 40% up to 92%.

245 In developing its Design Peak Day and Design Peak Hour estimates, it appears that DEU  
246 relies on historical data extending back to the 1929 to 1930 timeframe for HDD; thus,  
247 representing about 90 years of historical temperature data.<sup>17</sup> However, many utilities  
248 currently rely on only more recent data; typically, 20-30 years. This reliance on more  
249 recent data is driven by long-term trends in the data supporting warmer weather  
250 conditions.

251 Based on this historical analysis; the apparent flaws in the DEU forecast methodology as  
252 addressed by Mr. Ditzel; and practices normally followed within the industry, I am very  
253 skeptical about any reasonable likelihood of the DEU portrayal of Peak-Period  
254 conditions where DEU is unable to meet firm load demand in the foreseeable future.

255

256 **Q. You previously mentioned the current costs of the Peak-Hour services currently**  
257 **contracted by DEU. Is this representative of the cost burden on customers going**  
258 **forward?**

259 A. No. The \$2.4 million in costs currently being paid for peaking services on the upstream  
260 pipelines is only an interim step, based on DEU's stated plans to move forward with the  
261 construction of an LNG plant. Updated cost data is expected to be filed by DEU in a  
262 separate filing within the next two weeks. However, preliminary estimates of the LNG  
263 plant developed last fall indicated annual costs in excess of **[Begin Confidential]** [REDACTED]  
264 [REDACTED] **[End Confidential]**.

265

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<sup>16</sup> Response to Discovery DPU 2.50.

<sup>17</sup> Direct Testimony of David C. Landward at page 14, lines to 254. See also Response to Discovery DPU 2.46.

266 **Q. In Mr. Platt’s Direct Testimony at page 5, lines 97 to 112, he describes the**  
267 **consequences of a lack of supply during a Peak Hour demand condition, as estimated**  
268 **by DEU. He concludes that approximately 800,000 customers or about 80% of the**  
269 **Company’s system could lose service in the absence of adequate supply during this**  
270 **Design Peak Hour period. Mr. Lubow, regardless of whether DEU has arranged for**  
271 **these “Peak Hour” services in the past or not, are you aware of past occasions where**  
272 **firm sales customers have lost service due to a lack of upstream pipeline capacity?**

273 A. DEU has yet to experience an event that resulted in losing any firm sales customers on  
274 its system.<sup>18</sup>

275

276 **Q. At page 6, lines 123-124, Mr. Schwarzenbach states that “(t)he DEQP Tariff requires**  
277 **customers to flow on a ratable basis. DEQP does not have an obligation to permit**  
278 **hourly fluctuations...” Based on the DEU response to Discovery Request 3.13, is this**  
279 **an accurate statement?**

280 A. The DEU response to this request is attached as DPU Exhibit 5.3 DIR. Based on this  
281 response, it is more accurate to say that “A Shipper shall use reasonable efforts to  
282 deliver and receive gas at uniform hourly and daily flow rates, except as otherwise  
283 provided under an FP Addendum”. Based on this response, “reasonable efforts” is not a  
284 requirement to flow on a ratable basis. In fact, in the DEU response to Discovery  
285 Request 3.14, there is a specific reference to an allowance for an excess volume of gas  
286 over the uniform flow rate, provided that the total delivery for the Gas Day does not  
287 exceed the scheduled quantity.

288

289 **Q. At page 9, lines 171-173, Mr. Schwarzenbach states that “(i)f a pipeline reaches**  
290 **capacity and cannot provide flow above the RDC during Peak Hours, customers,**  
291 **including Dominion Energy, would be asked to match flows to ratable scheduled**

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<sup>18</sup> Response to Discovery DPU 2.71.

292 **nominations.” Are you aware of how many times, in the past five years, DEQP has**  
293 **asked DEU to match flows to ratable scheduled nominations?**

294 A. Yes. There were none.<sup>19</sup>

295

296 **Q. Since Kern River initiated its offer of peak-hour services effective on September 17,**  
297 **2016, have any shippers, aside from DEU, requested service under this tariff?**

298 A. No. In Docket No. 17-057-09, DPU asked this same question. In its response to DPU  
299 1.10, DEU stated that: “(t)he Company is not aware of any other customer signing up for  
300 this service. No one other than Dominion Energy has signed up for this service. It is a  
301 new service.” This response was dated May 24, 2017.

302 A similar question was posed to DEU in this Docket. Another eleven months have now  
303 passed, and the Company has confirmed, again, that it is unaware of any other  
304 customers requesting the Kern River peak-hour service now offered. Further, it is  
305 similarly unaware of any requests from other shippers for peak-hour services now  
306 offered by DEPQ.<sup>20</sup>

307

308 **Q. At page 12, lines 246-257, Mr. Schwarzenbach stated that it is his belief that it would**  
309 **not be responsible to ignore pipeline warnings “...that they will not reserve additional**  
310 **capacity above the required daily contract (RDC) amounts...” Of course, these**  
311 **“warnings” would necessarily have been made to all shippers on the Kern River**  
312 **pipeline, not just DEU. Is there any evidence that other shippers have taken any**  
313 **actions in response to the availability of capacity above RDC at this time?**

314 A. No. DEU has indicated that it is not aware of any specific actions taken by other  
315 shippers.<sup>21</sup>

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317

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<sup>19</sup> Response to Discovery DPU 5.10.

<sup>20</sup> Response to Discovery DPU 2.13.

<sup>21</sup> Response to Discovery DPU 2.18.

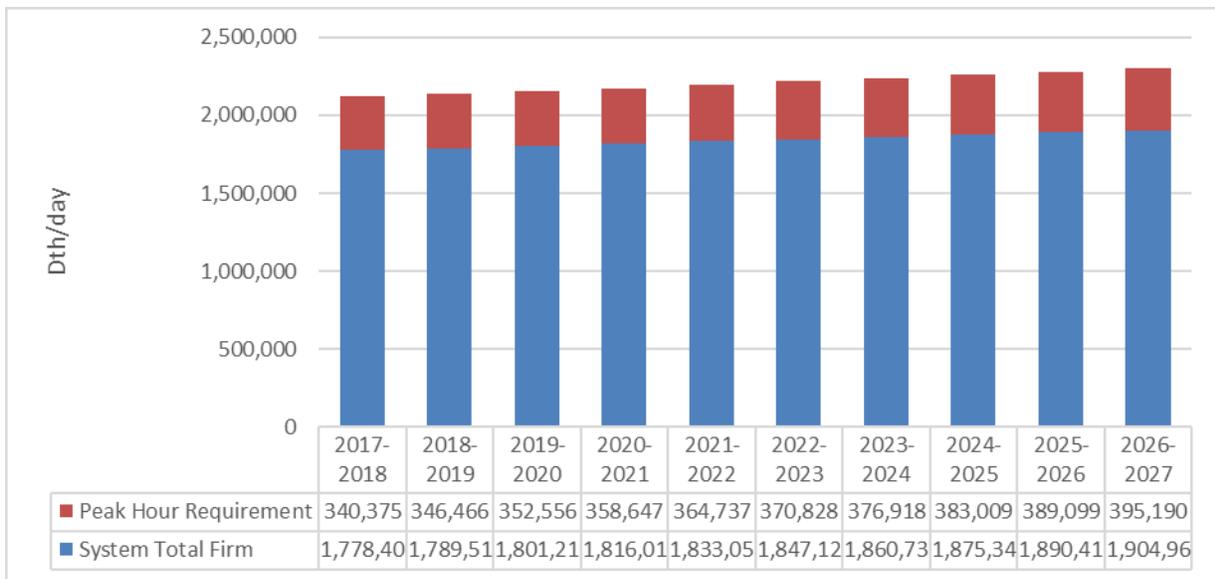
318 **Growth in Demand**

319

320 **Q. Is the system peak-period demand expected to increase based upon the current DEU**  
321 **forecast?**

322 A. Yes. The average annual anticipated growth in peak hour and peak day demand is 1.8 %  
323 and 0.8 %, respectively.<sup>22</sup> However, this growth in demand is apparently not being  
324 driven by any increase in usage per customer as shown on DPU Exhibit 5.4.

325 [Table 1-DEU Load Forecast](#)



326

327

328 **Q. Is there any evidence that DEU is focused on reducing growth on its system?**

329 A. No. Actually, the evidence available demonstrates quite the opposite. The strategic  
330 planning materials provided include the following:

331 **[Begin Confidential]**

332

333

334

335

<sup>22</sup> Response to Discovery DPU 2.31. Calculated.

336

337

338

339

340

341

**[End Confidential]**

342

343

**Q. Mr. Lubow, are you aware of any formal policy statements by this Commission or policy makers in the State regarding its interest in funding commitments necessary to foster gas expansion at this time?**

344

345

346

A. I have been informed that Utah recently passed legislation to bring natural gas to rural communities.

347

348

349

**Q. Is it customary for gas distribution utilities to pursue gas expansion programs in the absence of support from state policy makers and regulators?**

350

351

A. It would be highly unusual for gas distribution utilities to pursue customer expansion in the absence of such support. By its nature, gas expansion is less economical, and absent cost subsidies or cross-subsidies, often results in higher costs for existing customers. For this reason, many states do not support gas expansion in the absence of a showing of a net-benefit test. Therefore, I must assume that any pursuit of gas expansion in Utah will occur within parameters defined by this Commission.

352

353

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355

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357

358

**Available Options to Meeting Peak-Period Demand**

359

360

**Q. At page 11 of Mr. Schwarzenbach's testimony, he references that fact that DEU has considered various options to meeting its peak-hour requirements, one of which includes on-system storage. Have you reviewed the analysis of these options, as contained in Exhibits 3.7 and 3.8?**

361

362

363



390 A. It did. The LNG annual revenue requirement was estimated at about **[Begin**  
391 **Confidential]** [REDACTED] **[End Confidential]**, while the Magnum Energy storage option  
392 was estimated at **[Begin Confidential]** [REDACTED] **[End Confidential]**  
393 per year.

394

395 **Q. Have you found any particular bias in the DEU consideration of its various options?**

396 A. In looking at the planning documents that were produced in discovery, I believe that  
397 there is a bias. The excerpts from the strategic planning documents are quite limited  
398 and heavily redacted. However, it is clear that the Dominion Gas Distribution business,  
399 as reflected specifically in DEU objectives, is focused on **[Begin Confidential]** [REDACTED]

400

401

402

403

404

405

406 **Q. Please turn to DEU Exhibit No. 3.8, pages 3 and 4 of 14. At this portion of the Exhibit**  
407 **sponsorship by Mr. Schwarzenbach, the Company addresses the potential cost and**  
408 **benefits of controlling large firm customer load at peak periods. Based on**  
409 **interrupting service to these 275 customers, the Company estimates that it could**  
410 **reduce peak demand by approximately 150,000 Dth/day, which would cost**  
411 **approximately \$27.5 million for the necessary equipment. Do you agree with the way**  
412 **this analysis is framed?**

413 A. No. Based on the Company testimony in Docket No. 17-057-09,<sup>27</sup> it is probably not  
414 operationally realistic, necessary or appropriate to consider controlling the loads of 275  
415 large firm customers. Excluding the Lake Side delivery, the largest 13 customers have a

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<sup>25</sup> Response to Discovery DPU 2. 28. (Confidential)

<sup>26</sup> Response to Discovery DPU 2.29. (Confidential)

<sup>27</sup> Rebuttal Testimony of Kelly B. Mendenhall at page 8, line 180 to page 9, line 192.

416 peak demand of 193,470 Dth.<sup>28</sup> Assuming a cost of equipment \$100,000 per customer,  
417 as represented in DEU Exhibit No. 3.8, the total cost would be \$1.3 million, not the \$27.5  
418 million claimed by DEU. Of course, this is a one-time capital cost, as distinguished from  
419 the annual costs incurred for peak-hour services obtained from upstream pipelines.  
420

421 **Q. Referring to Mr. Schwarzenbach’s testimony at page 13, lines 274-279, he identifies**  
422 **potential difficulties with managing load control for a large group of large customers.**  
423 **Do you know if this statement was based on any formal analysis of how load control**  
424 **could be implemented, and the benefits and concerns associated with various**  
425 **options?**

426 A. It is not apparent that any serious analysis of this demand response opportunity has  
427 been made at all. According to DEU’s data responses, there are no documents  
428 supporting the statements referred to in your question. The statements are made on  
429 the basis of informal and undocumented conversations with “...representatives from  
430 Operation Engineering and Gas Control”.<sup>29</sup>  
431

432 **Q. A significant firm transportation delivery is associated with the Lake Side facility. In**  
433 **light of the DEU concerns regarding peak-hour issues, do you know if there is any**  
434 **history of the Company maintaining an hourly limit on these deliveries during peak-**  
435 **period conditions?**

436 A. There has been no set flow control to maintain an even hourly flow rate to the Lake Side  
437 facility.<sup>30</sup>  
438

439 **Q. Aside from the load control option, is there any evidence that the Company has**  
440 **pursued, or intends to pursue, demand response opportunities more generally.**

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<sup>28</sup> Response to Discovery DPU 2.20, Attachment.

<sup>29</sup> Response to Discovery DPU 2.21.

<sup>30</sup> Response to Discovery DPU 4.11.

441 A. Apparently, they have not.<sup>31</sup> DEU currently has a number of “ThemWise” energy  
442 efficiency programs that have had some impact on consumption. “The Company has  
443 not historically, nor does it currently, estimate system capacity reductions resulting  
444 from its energy efficiency programs.”<sup>32</sup> This current lack of estimation of the impact of  
445 demand response on capacity or peak demand is concerning in light of the projected  
446 growth rate in peak-day and peak-hour demand. In any event, there is no indication  
447 that any additional efforts are now under consideration.<sup>33</sup>  
448

449 **Q. Do you believe that there are any other viable options that have not been considered**  
450 **in some fashion by DEU?**

451 A. I do. The Lake Side Generating facility currently has 210,000 Dth of firm load, provided  
452 through the DEU system. It is my understanding that it also takes delivery of gas directly  
453 from Kern River.<sup>34</sup> As pointed out in DEU and DPU witness testimony sponsored by Mr.  
454 Doug Wheelwright, The Lake Side peak usage does not occur coincident with the DEU  
455 design peak-hour demand. Mr. Wheelwright points out that DEU recognizes the  
456 contract demand for Lake Side in developing its forecasted Peak-Hour requirements,  
457 though actual Lake Side usage at the DEU Peak-Hour is less. Aside from this important  
458 consideration, I believe that there is another potential viable option not addressed by  
459 DEU. The Lake Side facility is considered to be a fast start combined cycle design; “Both  
460 Lake Side 1 and Lake Side 2 have been designed so start times are reduced compared to  
461 conventional designs; this offers considerable flexibility to match real-time  
462 requirements of our customers.”<sup>35</sup> Fast start CC’s can get to 100% in ~30 minutes.<sup>36</sup>

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<sup>31</sup> Response to Discovery DPU 2.24.

<sup>32</sup> Response to Discovery DPU 2.25.

<sup>33</sup> Response to Discovery DPU 2.79.

<sup>34</sup> Response to Discovery DPU 1.28.

<sup>35</sup> [https://www.pacificorp.com/content/dam/pacificorp/doc/Energy\\_Sources/EnergyGeneration\\_FactSheets/RMP\\_GFS\\_Lake\\_Side.pdf](https://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/RMP_GFS_Lake_Side.pdf)

<sup>36</sup> <https://www.power-eng.com/articles/print/volume-121/issue-3/features/fast-start-combined-cycles-how-fast-is-fast.html>

463 Based upon the operating characteristics of the Lake Side facility; the fact that it does  
464 not take or need its contracted capacity at the time of the DEU forecasted peak-hour;  
465 and that it may take delivery of gas directly from Kern River, it seems reasonable that  
466 Lake Side would be open to a formal commitment to curtail its demand if and when DEU  
467 were to experience a peak-period condition that could not otherwise be met.

468

469 **Q. Does the DEU analysis of various options to meeting its peak-hour requirements**  
470 **include any efforts or estimates of incentives likely needed to induce Lake Side or**  
471 **other large firm customers to curtail their load during peak-period conditions?**

472 A. No.

473

474 **Industry Procedures and Best Practices**

475

476 **Q. DEU Exhibit 3.9 portrays a peak-day, indicating the hourly demands, and associating**  
477 **such demands with the use of storage. What do other LDCs do to meet this**  
478 **fluctuation in demand where on-system storage is not necessarily available?**

479 A. Under these conditions, in my experience, LDCs generally rely upon upstream pipelines  
480 to continue to provide service, whether they are contractually obligated to do so or not.  
481 DEU has also recognized that this practice is common within the industry.<sup>37</sup>

482

483 **Q. Has DEU provided any industry data of relevance to this proceeding?**

484 A. It did. In a response to discovery, DEU provided a copy of an AGA survey entitled, "Gas  
485 System Planning – Peak Day Design Criteria". The summary is dated July 2017, and is  
486 based upon the responses of 39 gas utilities.<sup>38</sup>

487

488 **Q. Would you please summarize the information contained in the AGA summary?**

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<sup>37</sup> Response to Discovery DPU 5.15.

<sup>38</sup> Response to Discovery DPU 2.88, Attachment 1 (Confidential)

489 A. Yes. It solicited information regarding how the gas companies, among other things,  
490 considered: Peak Day Design Criteria; operating pressures under peak-period conditions;  
491 confidence levels assumed in forecasting firm demand; how the Peak Day demand is  
492 considered throughout the day; and whether a Peak Day has ever exceeded Design  
493 Criteria, and if so, whether firm customers were interrupted.

494

495 **Q. Given the issues that have been raised in this proceeding, what information did you**  
496 **find to be noteworthy?**

497 A. I found the following results to be relevant and have some bearing on the matters  
498 addressed in this proceeding.

499 **[Begin Confidential]**

500 [Redacted]

501 [Redacted]

502 [Redacted]

503 [Redacted]

504 [Redacted]

505 [Redacted]

506 [Redacted]

507 [Redacted]

508 [Redacted]

509 [Redacted]

510 [Redacted]

511 [Redacted]

512 [Redacted]

513 [Redacted]

514 **[End Confidential]**

515

516 **Q. Can you explain how these survey results relate more directly to the DEU evidence in**  
517 **this case?**

518 A. Certainly. Taking the above results in order, and relating it directly to DEU, the following  
519 observations can be made.

520 **[Begin Confidential]**

521 • [REDACTED]

522 [REDACTED]

523 [REDACTED]

524 [REDACTED]<sup>39</sup>

525 [REDACTED]

526 [REDACTED]

527 [REDACTED]

528 • [REDACTED]

529 [REDACTED]<sup>40</sup> [REDACTED]

530 [REDACTED]

531 [REDACTED]

532 [REDACTED]

533 [REDACTED]

534 **[End Confidential]**

535

536 **Q. You mentioned that DEU measures a number of variables aside from HDDs. Is it**  
537 **possible to see what the effect of these variables might be, when isolated from HDDs?**

538 A. Yes. Mr. Landward provides the effect of each of the variables he considers in his  
539 testimony at Page 8, line 156. If we assume that the Peak Design Day is 1,048,291 Dth  
540 based on HDDs, the DEU adjustment for wind adds 283,464 Dth, or 27% to the estimate.  
541 To put this into perspective, two observations can be made. Half the utilities in the AGA  
542 survey would not make this adjustment at all in estimating their Peak Design Day. If we

<sup>39</sup> Direct Testimony of David C. Landward at page 2, lines 33-35.

<sup>40</sup> DEU assumes that the recurrence interval is 20 years. Direct Testimony of David C. Landward at page 3, line 66.

543 conclude that the wind adjustment is inappropriate or improperly determined, this  
544 adjustment exceeds, and therefore offsets, the hourly variation in load of up the 17% as  
545 contained in the DEU analysis presented in its testimony.

546

547 **Q. I know that Mr. Ditzel addresses the use peak-day inputs DEU considers in the forecast**  
548 **models, but can you comment on how the DEU variables considered compare to other**  
549 **utilities in the AGA study?**

550 A. Yes. As I previously stated, about **[Begin Confidential]** ██████████  
551 ██████████ **[End Confidential]** only rely on temperature (HDDs). For those that consider  
552 other factors, none appear to consider the input variables in the manner utilized by  
553 DEU. Aside from the AGA study, it further appears that DEU uses among the most  
554 restrictive assumptions for peak-day estimates among its affiliates.<sup>41</sup>

555

556 **Summary Conclusions**

557

558 **Q. In Docket No. 17-057-09, you concluded that the DEU Peaking contracts with Kern**  
559 **River and DEQP, in your opinion, unnecessary at this time. Based upon your analysis**  
560 **in this proceeding, and the analysis of other witnesses appearing on behalf of the**  
561 **DPU, have you come to any different conclusion?**

562 A. No. The DEU testimony in this case has changed little from its evidence in the 17-057-09  
563 case. However, the Staff analysis in this proceeding is benefited by a detailed review of  
564 the forecast models relied upon by DEU in developing its peak-period needs. The  
565 review was also benefitted by having an expert gas engineer review the DEU system  
566 operations and system requirements. Finally, based on our combined ability to request  
567 and review additional documents since the case held last year, we now have a more  
568 robust picture of the basis, if any, for the short-term and long-term peaking  
569 requirements needed to serve the DEU firm customer load. This additional expertise and

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<sup>41</sup> Response to Discovery DPU 2.41.

570 scope of analysis has resulted in supporting my original view that these pipeline peak-  
571 period services contracts are unnecessary.

572

573 **Q. Mr. Lubow, are you aware that DEU has been taking delivery of gas from Kern River**  
574 **and DEQP under these agreements?**

575 A. I am. However, absent these agreements, these same deliveries would have been made  
576 under the existing firm transportation contracts, without the need for costs associated  
577 with the peak-hour services under these new agreements.

578

579 **Q. Do you have an opinion of whether these agreements were prudently entered, and**  
580 **are used and useful in providing reliable service to customers?**

581 A. My conclusion is unchanged from the Docket No. 17-057-09 case. I do not believe that  
582 either the firm sales or firm transportation customers need or benefit from these  
583 Agreements for peak-hour services. The record evidence in this proceeding only further  
584 supports this conclusion.

585

586 **Q. In light of the additional findings arising from the Overland analysis in this case, do**  
587 **you have any further recommendations for the Commission at this time?**

588 A. I understand that DEU is filing for approval of an LNG facility within the period of the  
589 procedural schedule for this proceeding. However, in light of the evidence in this case,  
590 the Commission may wish to be more proscriptive at this time regarding the following  
591 items:

- 592
- 593 • Does the Commission expect DEU to be more aggressive in pursuing demand response  
594 programs?
  - 595 • Assuming that the Commission agrees that there have been serious questions raised  
596 regarding the reliability of the peak-day and peak-hour models employed by DEU, to  
what extent should the Commission take any specific action at this time?

597       • Considering the apparent DEU policy to pursue gas expansion opportunities in Utah,  
598            what directives should the Commission provide, if any, in setting parameters for such  
599            projects?

600

601   **Q.     Does this conclude your prepared direct testimony?**

602   **A.     Yes, it does.**